

INCH-POUND

MIL-PRF-23419/8G

25 May 1998

SUPERSEDING

MIL-PRF-23419/8F

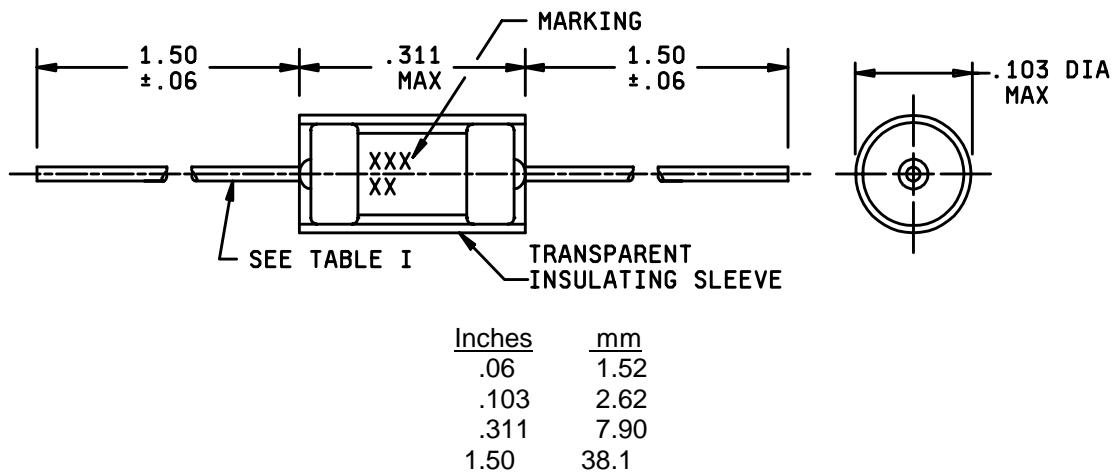
17 August 1989

PERFORMANCE SPECIFICATION SHEET

FUSE, CARTRIDGE, INSTRUMENT TYPE, STYLE FM08, (SUBMINIATURE - HIGH PERFORMANCE)

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein
shall consist of this specification and MIL-PRF-23419.



NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.

FIGURE 1. Style FM08 fuses.

REQUIREMENTS:

Interface and physical dimensions: See figure 1.

Applicable fuseholder: Grayhill type 2-42, miniature test clip (or equivalent). For 7 Ampere (A), 10A, and 15A fuses, use Grayhill pushpost number 29YY2126-0 or equivalent.

Case material: Ceramic or glass.

Terminals:

Materials: Caps, 90/10, commercial bronze; leads, copper.

Finish: For gold finish leads, caps shall have a gold finish. Caps and leads shall be gold plated in accordance with MIL-G-45204, type II, class 1 or equivalent method. For solder coated leads (suffix "T"), the leads of the gold plated cap and lead assemblies shall be solder dipped (see table I).

Strength: 5 pounds along terminal axis.

Current rating: See table I.

Characteristic: See table I.

Voltage rating: See table I.

Current carrying capacity: 100 percent at +25°C; 110 percent at -55°C; 80 percent at +125°C. The temperature of the case, body, or terminals shall, at no point, rise more than +70°C above the ambient air temperature. The maximum temperature rise for 10A and 15A fuses shall be +85°C.

Resistance: See table I.

Overload interrupt: Percentage of nominal rating, interrupt time -55°C through +125°C, 200 percent in 0 second to 5 seconds; 300 percent in 0 second to 0.1 second. Interrupt time for 15A fuses shall be 10 seconds maximum at 200 percent of rated current and .3 second maximum at 300 percent of rated current.

Short circuit interrupt: 300 amperes at maximum voltage dc, minimum insulation resistance 10,000 ohms.

Shock: Method I of MIL-PRF-23419.

Thermal shock: Method 107, MIL-STD-202, test condition B.

Qualification: Qualification may be granted to style FM08 fuses to those qualified for style FM04 fuses, provided they meet the verification requirements shown below:

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Verification: The following tests shall be conducted on 100 percent of the units, in the order shown, prior to any tests referenced in MIL-PRF-23419. Nonconforming units shall be removed from the lot.

- a. Seal - Immerse in a clear mineral oil bath at +125° C for 1 minute. No bubbles shall be detected. (See method 112A, MIL-STD-202 test condition A.)
- b. Voltage drop - See table I.
- c. Resistance - See table I.
- d. Visual and mechanical - Inspection shall be by 3X minimum magnification.

Extent of qualification: Qualification may be extended to style FM04 fuses to those qualified for style FM08 fuses.

Solderability: Fuses shall be tested in accordance with MIL-PRF-23419. Gold plated leads shall have the gold removed by single or double dipping into a flowing or nonflowing hot solder of sufficient volume to assure complete gold removal.

Resistance to soldering heat: Fuses shall be tested in accordance with MIL-PRF-23419.

Marking: Fuses shall be marked with the manufacturer's name or trademark and current rating only.

TABLE I. Style FM08 Type designation, electrical parameters, and lead dimensions

Type designation ^{1/} ^{2/}			Cold resistance (ohms) ^{3/}		Voltage drop (volts) ^{4/}		Lead diameter	
Characteristic	Maximum voltage	Current rating (amperes)	Minimum	Maximum	Minimum	Maximum	Inches (± 0.002)	mm (± 0.05)
A	125V	1/8A	1.89	2.31	.850	1.15	.025	.64
A	125V	1/4A	.639	.781	.590	.800	.025	.64
A	125V	3/8A	.378	.462	.527	.713	.025	.64
A	125V	1/2A	.252	.308	.488	.660	.025	.64
A	125V	3/4A	.153	.187	.145	.197	.025	.64
A	125V	1A	.112	.138	.157	.213	.025	.64
A	125V	1 1/2A	.072	.088	.153	.207	.025	.64
A	125V	2A	.0495	.0605	.144	.196	.025	.64
A	125V	2 1/2A	.0378	.0462	.125	.169	.025	.64
A	125V	3A	.0315	.0388	.139	.187	.025	.64
A	125V	4A	.0207	.0253	.110	.150	.025	.64
A	125V	5A	.0126	.0154	.087	.118	.025	.64
A	125V	7A	.0090	.0110	.087	.118	.025	.64
A	125V	10A	.0059	.0070	.085	.110	.025	.64
A	32V	15A	.0036	.0044	.065	.087	.032	.82

^{1/} Add "T" suffix to type designation if optional solder coated leads are required.

^{2/} Example of complete type designation with optional lead finish: FM08A125V1/2AT.

^{3/} Cold resistance is measured at 10 percent or less of rated current.

^{4/} Voltage drop is measured after the fuse has been subjected to rated current for not less than one minute.

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Qualification and group C Inspection:

Inspection routine: The number of group II samples for qualification and subgroup 2 samples for group C inspection shall be as shown in table II.

Table II. Group II and subgroup 2 samples

Inspection	Number of sample fuses
Group II and subgroup 2	16
Terminal strength	4
Overload interrupt	
200% at -55° C	4
200% at +125° C	4
300% at -55° C	4
300% at +125° C	4
Insulation resistance	16

The number of group III samples for qualification (or first article) testing shall consist of four sample fuses of each of the current ratings as shown in table III. Short circuit interrupt tests shall be conducted at the direct current voltage indicated, and the fuses shall be capable of withstanding a minimum short circuit current as shown in table III. Insulation resistance test shall be as specified in MIL-PRF-23419.

TABLE III. Short circuit tests

Fuse type	Current rating	Short circuit current	DC voltage
FM08	10A	300A	125
FM08	15A	300A	32

Supersession data: See table IV.

TABLE IV. Supersession data

Superseding type designation	Superseded numbers in accordance with MIL-PRF-23419/8B	Superseded numbers in accordance with MIL-PRF-23419/8A
FM08A125V1/8A	FM08125V1/8A	FM08-125V-1/8A
FM08A125V1/4A	FM08125V1/4A	FM08-125V-1/4A
FM08A125V3/8A	FM08125V3/8A	FM08-125V-3/8A
FM08A125V1/2A	FM08125V1/2A	FM08-125V-1/2A
FM08A125V3/4A	FM08125V3/4A	FM08-125V-3/4A
FM08A125V1A	FM08125V1A	FM08-125V-1A
FM08A125V1-1/2A	FM08125V1-1/2A	FM08-125V-1-1/2A
FM08A125V2A	FM08125V2A	FM08-125V-2A
FM08A125V2-1/2A	FM08125V2-1/2A	FM08-125V-2-1/2A
FM08A125V3A	FM08125V3A	FM08-125V-3A
FM08A125V4A	FM08125V4A	FM08-125V-4A
FM08A125V5A	FM08125V5A	FM08-125V-5A
FM08A125V7A	FM08125V7A	
FM08A125V10A	FM08125V10A	
FM08A32V15A	FM08125V15A	

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Custodians:

Army - CR
Navy - EC
Air Force - 85

Preparing activity:

DLA - CC

(Project 5920-0564)

Review activities:

Army - MI
Navy - AS
Air Force - 19, 99
NSA - NS